

1 CALIFORNIA MODEL
2 FLOODPLAIN MANAGEMENT
3 ORDINANCE

4
5 JUNE 1999
6
7

8 ***Contents***

9 SECTION 1.0 STATUTORY AUTHORIZATION, FINDINGS
10 OF FACT, PURPOSE AND METHODS

11 SECTION 2.0 DEFINITIONS

12 SECTION 3.0 GENERAL PROVISIONS

13 SECTION 4.0 ADMINISTRATION

14 SECTION 5.0 PROVISIONS FOR FLOOD HAZARD
15 REDUCTION

16 SECTION 6.0 VARIANCE PROCEDURES
17

18
19 ***ZONE AR ADDENDUM TO THE CALIFORNIA***
20 ***MODEL ORDINANCE***

21 SECTION 2.0 DEFINITIONS

22 SECTION 4.3 DUTIES AND RESPONSIBILITIES OF THE
23 FLOODPLAIN ADMINISTRATOR

24 SECTION 5.1 B.

25 SECTION 5.1 C.

26 SECTION 5.7 ZONE AR AREAS

Notice to all Communities planning to adopt this Ordinance in its entirety:

1. Your community's name or address, or name of the responsible party, as appropriate, must be inserted where [BRACKETS] occur;
2. If the higher standards, i.e. the State of California recommendations in Section 5, are adopted the community can receive credit under the Community Rating System (CRS) program;
3. Communities with a "basement exemption" in accordance with Section 60.6 (b) or (c) of the National Flood Insurance Program regulations as revised October 1, 1988, should revise Section 5.1 C.1 appropriately;
4. Communities that do not have certain special flood hazard area zones identified on their Flood Insurance Rate Map(s) (FIRM's) may find it necessary to modify the model ordinance as follows:

-- with no erosion-prone areas (Zone E):

- in Section 2, delete the definitions "area of special flood-related erosion hazard", "flood-related erosion", "flood-related erosion area", and flood-related erosion area management".
- in Section 2, delete the words "flood-related erosion hazards" from the definition of "special flood hazard area".
- delete Section 5.9 in its entirety.

-- with no mudslide (i.e., mudflow)-prone areas (Zone M):

- delete the definitions of "area of special mudslide (i.e., mudflow) hazard", "mudslide", and "mudslide prone area" in Section 2.
- delete Sections 4.3 D.7 and 5.8.

-- with no coastal areas (Zone V, VE, or VI-V30):

- in Section 2, in the definition of "special flood hazard area" delete the words "V1-30, VE, or V"; delete the definitions of "breakaway walls", "coastal high hazards area", "primary frontal dune", "sand dunes" and "Zone V".
- delete Section 4.3 D.6 and renumber 4.3 D.7.
- delete Section 5.4 B and "V1-30, V, and VE" from Section 5.4 C and renumber.
- delete Sections 5.5 B and 5.7 and renumber 5.8 and 5.9

SECTION 1.0

STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND METHODS

1.1 STATUTORY AUTHORIZATION. The Legislature of the State of California has in Government Code Sections 65302, 65560, and 65800 conferred upon local government units' authority to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the [GOVERNING BODY] of [COUNTY OR MUNICIPALITY] does hereby adopt the following floodplain management regulations.

1.2 FINDINGS OF FACT.

A. The flood hazard areas of [COUNTY OR MUNICIPALITY] are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

B. These flood losses are caused by uses that are inadequately elevated, flood proofed, or protected from flood damage. The cumulative effect of obstructions in areas of special flood hazards that increase flood heights and velocities also contribute to the flood loss.

1.3 STATEMENT OF PURPOSE. It is the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

A. protect human life and health;

B. minimize expenditure of public money for costly flood control projects;

C. minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

D. minimize prolonged business interruptions;

E. minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;

1 F. help maintain a stable tax base by providing for the sound use
2 and development of areas of special flood hazard so as to minimize
3 future blighted areas caused by flood damage;

4 G. ensure that potential buyers are notified that property is in an
5 area of special flood hazard; and

6 H. ensure that those who occupy the areas of special flood hazard
7 assume responsibility for their actions.

8 **1.4 METHODS OF REDUCING FLOOD LOSSES.** In order to accomplish
9 its purposes, this ordinance includes methods and provisions to

10 A. restrict or prohibit uses which are dangerous to health, safety,
11 and property due to water or erosion hazards, or which result in
12 damaging increases in erosion or flood heights or velocities;

13 B. require that uses vulnerable to floods, including facilities which
14 serve such uses, be protected against flood damage at the time of
15 initial construction;

16 C. control the alteration of natural floodplains, stream channels, and
17 natural protective barriers, which help accommodate or channel
18 flood waters;

19 D. control filling, grading, dredging, and other development which
20 may increase flood damage; and

21 E. prevent or regulate the construction of flood barriers which will
22 unnaturally divert flood waters or which may increase flood hazards
23 in other areas.

24 **SECTION 2.0**

25 **DEFINITIONS**

26 Unless specifically defined below, words or phrases used in this ordinance
27 shall be interpreted so as to give them the meaning they have in common
28 usage and to give this ordinance its most reasonable application.

29 **"Accessory use"** means a use that is incidental and subordinate to the
30 principal use of the parcel of land on which it is located.

31 **"Alluvial fan"** means a geomorphologic feature characterized by a cone
32 or fan-shaped deposit of boulders, gravel, and fine sediments that have
33 been eroded from mountain slopes, transported by flood flows, and then
34 deposited on the valley floors, and which is subject to flash flooding, high

velocity flows, debris flows, erosion, sediment movement and deposition, and channel migration.

"Apex" means the point of highest elevation on an alluvial fan, which on undisturbed fans is generally the point where the major stream that formed the fan emerges from the mountain front.

"Appeal" means a request for a review of the Floodplain Administrator's interpretation of any provision of this ordinance.

"Area of shallow flooding" means a designated as Zone AO or AH on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

"Area of special flood hazard" - See "Special flood hazard area."

"Area of special flood-related erosion hazard" is the land within a community that is most likely to be subject to severe flood-related erosion losses. The area may be designated as Zone E on the Flood Insurance Rate Map (FIRM).

"Area of special mudslide (i.e., mudflow) hazard" is the area subject to severe mudslides (i.e., mudflows). The area is designated as Zone M on the Flood Insurance Rate Map (FIRM).

"Base flood" means a flood which has a one percent chance of being equaled or exceeded in any given year (also called the "100-year flood"). Base flood is the term used throughout this ordinance.

"Basement" means any area of the building having its floor subgrade - i.e., below ground level - on all sides.

"Breakaway walls" are any type of walls, whether solid or lattice, and whether constructed of concrete, masonry, wood, metal, plastic or any other suitable building material which is not part of the structural support of the building and which is designed to break away under abnormally high tides or wave action without causing any damage to the structural integrity of the building on which they are used or any buildings to which they might be carried by flood waters. A breakaway wall shall have a safe design loading resistance of not less than ten and no more than twenty pounds per square foot. Use of breakaway walls must be certified by a registered engineer or architect and shall meet the following conditions:

1. breakaway wall collapse shall result from a water load less than that which would occur during the base flood, and

2. the elevated portion of the building shall not incur any structural damage due to the effects of wind and water loads acting simultaneously in the event of the base flood.

"Building" - see **"Structure"**.

"Coastal high hazard area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. It is an area subject to high velocity waters, including coastal and tidal inundation or tsunamis. The area is designated on a Flood Insurance Rate Map (FIRM) as Zone V1-V30, VE, or V.

"Development" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

"Encroachment" means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

"Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

"Flood, flooding, or flood water" means:

1. a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters; the unusual and rapid accumulation or runoff of surface waters from any source; and/or mudslides (i.e., mudflows); and

2. the condition resulting from flood-related erosion

1 **"Flood Boundary and Floodway Map (FBFM)"** means the official map on
2 which the Federal Emergency Management Agency or Federal Insurance
3 Administration has delineated both the areas of special flood hazards and
4 the floodway.

5 **"Flood Hazard Boundary Map"** means the official map on which the
6 Federal Emergency Management Agency or Federal Insurance
7 Administration has delineated the areas of flood hazards.

8 **"Flood Insurance Rate Map (FIRM)"** means the official map on which the
9 Federal Emergency Management Agency or Federal Insurance
10 Administration has delineated both the areas of special flood hazards and
11 the risk premium zones applicable to the community.

12 **"Flood Insurance Study"** means the official report provided by the
13 Federal Insurance Administration that includes flood profiles, the Flood
14 Insurance Rate Map, the Flood Boundary and Floodway Map, and the
15 water surface elevation of the base flood.

16 **"Flood-related erosion"** means the collapse or subsidence of land along
17 the shore of a lake or other body of water as a result of undermining
18 caused by waves or currents of water exceeding anticipated cyclical level
19 or suddenly caused by an unusually high water level in a natural body of
20 water, accompanied by a severe storm, or by an unanticipated force of
21 nature, such as a flash flood or an abnormal tidal surge, or by some
22 similarly unusually and unforeseeable event which results in flooding.

23 **"Flood-related erosion area" or "Flood-related erosion prone area"**
24 means a land area adjoining the shore of a lake or other body of water,
25 which due to the composition of the shoreline or bank and high water
26 levels or wind-driven currents, is likely to suffer flood-related erosion
27 damage.

28 **"Flood-related erosion area management"** means the operation of an
29 overall program of corrective and preventive measures for reducing flood-
30 related erosion damage, including but not limited to emergency
31 preparedness plans, flood-related erosion control works, and floodplain
32 management regulations.

33 **"Floodplain or flood-prone area"** means any land area susceptible to
34 being inundated by water from any source - see " **Flood, flooding, or**
35 **flood water.**"

36 **"Floodplain Administrator"** is the individual appointed to administer and
37 enforce the floodplain management regulations.

38 **"Floodplain management"** means the operation of an overall program of
39 corrective and preventive measures for reducing flood damage and

1 preserving and enhancing, where possible, natural resources in the
2 floodplain, including but not limited to emergency preparedness plans,
3 flood control works, floodplain management regulations, and open space
4 plans.

5 **"Floodplain management regulations"** means this ordinance and other
6 zoning ordinances, subdivision regulations, building codes, health
7 regulations, special purpose ordinances (such as grading and erosion
8 control) and other application of police power which control development
9 in flood-prone areas. This term describes federal, state or local regulations
10 in any combination thereof that provide standards for preventing and
11 reducing flood loss and damage.

12 **"Flood proofing"** means any combination of structural and nonstructural
13 additions, changes, or adjustments to structures which reduce or eliminate
14 flood damage to real estate or improved real property, water and sanitary
15 facilities, structures, and their contents. (Refer to FEMA Technical
16 Bulletins TB 1-93, TB 3-93, and TB 7-93 for guidelines on dry and wet
17 flood proofing.)

18 **"Floodway"** means the channel of a river or other watercourse and the
19 adjacent land areas that must be reserved in order to discharge the base
20 flood without cumulatively increasing the water surface elevation more
21 than one foot. Also referred to as "Regulatory Floodway".

22 **"Floodway fringe"** is that area of the floodplain on either side of the
23 "Regulatory Floodway" where encroachment may be permitted.

24 **"Fraud and victimization"** as related to Section 6, **Variance Procedure**,
25 of this ordinance, means that the variance granted must not cause fraud
26 on or victimization of the public. In examining this requirement, the
27 [COMMUNITY GOVERNING BODY] will consider the fact that every newly
28 constructed building adds to government responsibilities and remains a
29 part of the community for fifty to one-hundred years. Buildings that are
30 permitted to be constructed below the base flood elevation are subject
31 during all those years to increased risk of damage from floods, while future
32 owners of the property and the community as a whole are subject to all the
33 costs, inconvenience, danger, and suffering that those increased flood
34 damages bring. In addition, future owners may purchase the property,
35 unaware that it is subject to potential flood damage, and can be insured
36 only at very high flood insurance rates.

37 **"Functionally dependent use"** means a use that cannot perform its
38 intended purpose unless it is located or carried out in close proximity to
39 water. The term includes only docking facilities, port facilities that are
40 necessary for the loading and unloading of cargo or passengers, and ship

1 building and ship repair facilities, and does not include long-term storage
2 or related manufacturing facilities.

3 "**Governing body**" is the local governing unit, i.e. county or municipality,
4 which is empowered to adopt and implement regulations to provide for the
5 public health, safety and general welfare of its citizenry.

6 "**Hardship**" as related to Section 6, **Variance Procedure**, of this
7 ordinance means the exceptional hardship that would result from a failure
8 to grant the requested variance. The [GOVERNING BODY] requires that the
9 variance be exceptional, unusual, and peculiar to the property involved.
10 Mere economic or financial hardship alone is not exceptional.
11 Inconvenience, aesthetic considerations, physical handicaps, personal
12 preferences, or the disapproval of one's neighbors likewise cannot, as a
13 rule, qualify as an exceptional hardship. All of these problems can be
14 resolved through other means without granting a variance, even if the
15 alternative is more expensive, or requires the property owner to build
16 elsewhere or put the parcel to a different use than originally intended.

17 "**Highest adjacent grade**" means the highest natural elevation of the
18 ground surface prior to construction next to the proposed walls of a
19 structure.

20 "**Historic structure**" means any structure that is

- 21 1. listed individually in the National Register of Historic
22 Places (a listing maintained by the Department of Interior) or
23 preliminarily determined by the Secretary of the Interior as
24 meeting the requirements for individual listing on the
25 National Register;
- 26 2. certified or preliminarily determined by the Secretary of
27 the Interior as contributing to the historical significance of a
28 registered historic district or a district preliminarily
29 determined by the Secretary to qualify as a registered
30 historic district;
- 31 3. individually listed on a state inventory of historic places in
32 states with historic preservation programs which have been
33 approved by the Secretary of Interior; or
- 34 4. individually listed on a local inventory of historic places in
35 communities with historic preservation programs that have
36 been certified either by an approved state program as
37 determined by the Secretary of the Interior or directly by the
38 Secretary of the Interior in states without approved
39 programs.

1 **"Levee"** means a man-made structure, usually an earthen embankment,
2 designed and constructed in accordance with sound engineering practices
3 to contain, control or divert the flow of water so as to provide protection
4 from temporary flooding.

5 **"Levee system"** means a flood protection system that consists of a levee,
6 or levees, and associated structures, such as closure and drainage
7 devices, which are constructed and operated in accord with sound
8 engineering practices.

9 **"Lowest floor"** means the lowest floor of the lowest enclosed area,
10 including basement (see **"Basement"** definition).

11 1. An unfinished or flood resistant enclosure below the
12 lowest floor that is usable solely for parking of vehicles,
13 building access or storage in an area other than a basement
14 area, is not considered a building's lowest floor provided it
15 conforms to applicable non-elevation design requirements,
16 including, but not limited to:

- 17 a. the wet flood proofing standard in section 5.1 C.3.
- 18 b. the anchoring standards in section 5.1 A.
- 19 c. the construction materials and methods standards in section 5.1 B.
- 20 d. the standards for utilities in section 5.2.

21 2. For residential structures, all subgrade-enclosed areas are
22 prohibited as they are considered to be basements (see
23 **"Basement"** definition). This prohibition includes below-
24 grade garages and storage areas.

25 **"Manufactured home"** means a structure, transportable in one or more
26 sections, which is built on a permanent chassis and is designed for use
27 with or without a permanent foundation when attached to the required
28 utilities. The term "manufactured home" does not include a "recreational
29 vehicle".

30 **"Manufactured home park or subdivision"** means a parcel (or
31 contiguous parcels) of land divided into two or more manufactured home
32 lots for rent or sale.

33 **"Market Value"** shall be determined by estimating the cost to replace the
34 structure in new condition and adjusting that cost figure by the amount of
35 depreciation, which has accrued since the structure was constructed. The
36 cost of replacement of the structure shall be based on a square foot cost
37 factor determined by reference to a building cost estimating guide
38 recognized by the building construction industry. The amount of
39 depreciation shall be determined by taking into account the age and
40 physical deterioration of the structure and functional obsolescence as

1 approved by the floodplain administrator, but shall not include economic or
2 other forms of external obsolescence. Use of replacement costs or
3 accrued depreciation factors different from those contained in recognized
4 building cost estimating guides may be considered only if such factors are
5 included in a report prepared by an independent professional appraiser
6 and supported by a written explanation of the differences.

7 **"Mean sea level"** means, for purposes of the National Flood Insurance
8 Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other
9 datum, to which base flood elevations shown on a community's Flood
10 Insurance Rate Map are referenced.

11 **"Mudslide"** describes a condition where there is a river, flow or inundation
12 of liquid mud down a hillside, usually as a result of a dual condition of loss
13 of brush cover and the subsequent accumulation of water on the ground,
14 preceded by a period of unusually heavy or sustained rain.

15 **"Mudslide (i.e., mudflow) prone area"** means an area with land surfaces
16 and slopes of unconsolidated material where the history, geology, and
17 climate indicate a potential for mudflow.

18 **"New construction"**, for floodplain management purposes, means
19 structures for which the "start of construction" commenced on or after the
20 effective date of floodplain management regulations adopted by this
21 community, and includes any subsequent improvements to such
22 structures.

23 **"New manufactured home park or subdivision"** means a manufactured
24 home park or subdivision for which the construction of facilities for
25 servicing the lots on which the manufactured homes are to be affixed
26 (including at a minimum, the installation of utilities, the construction of
27 streets, and either final site grading or the pouring of concrete pads) is
28 completed on or after the effective date of floodplain management
29 regulations adopted by this community.

30 **"Obstruction"** includes, but is not limited to, any dam, wall, wharf,
31 embankment, levee, dike, pile, abutment, protection, excavation,
32 channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel,
33 refuse, fill, structure, vegetation or other material in, along, across or
34 projecting into any watercourse which may alter, impede, retard or change
35 the direction and/or velocity of the flow of water, or due to its location, its
36 propensity to snare or collect debris carried by the flow of water, or its
37 likelihood of being carried downstream.

38 **"One-hundred-year flood"** or "100-year flood" - see **"Base flood."**

39 **"Primary frontal dune"** means a continuous or nearly continuous mound
40 or ridge of sand with relatively steep seaward and landward slopes

1 immediately landward and adjacent to the beach and subject to erosion
2 and overtopping from high tides and waves during major coastal storms.
3 The inland limit of the primary frontal dune occurs at the point where there
4 is a distinct change from a relatively mild slope.

5 **"Public safety and nuisance"** as related to Section 6, **Variance**
6 **Procedure**, of this ordinance means that the granting of a variance must
7 not result in anything which is injurious to safety or health of an entire
8 community or neighborhood, or any considerable number of persons, or
9 unlawfully obstructs the free passage or use, in the customary manner, of
10 any navigable lake, or river, bay, stream, canal, or basin.

11 **"Recreational vehicle"** means a vehicle that is

- 12 1. built on a single chassis;
- 13 2. 400 square feet or less when measured at the largest
14 horizontal projection;
- 15 3. designed to be self-propelled or permanently towable by a
16 light-duty truck; and
- 17 4. designed primarily not for use as a permanent dwelling
18 but as temporary living quarters for recreational, camping,
19 travel, or seasonal use.

20 **"Regulatory floodway"** means the channel of a river or other watercourse
21 and the adjacent land areas that must be reserved in order to discharge
22 the base flood without cumulatively increasing the water surface elevation
23 more than one foot.

24 **"Remedy a violation"** means to bring the structure or other development
25 into compliance with State or local floodplain management regulations, or,
26 if this is not possible, to reduce the impacts of its noncompliance. Ways
27 that impacts may be reduced include protecting the structure or other
28 affected development from flood damages, implementing the enforcement
29 provisions of the ordinance or otherwise deterring future similar violations,
30 or reducing State or Federal financial exposure with regard to the structure
31 or other development.

32 **"Riverine"** means relating to, formed by, or resembling a river (including
33 tributaries), stream, brook, etc.

34 **"Sand dunes"** mean naturally occurring accumulations of sand in ridges
35 or mounds landward of the beach.

36 **"Sheet flow area"** - see **"Area of shallow flooding"**.

1 **"Special flood hazard area (SFHA)"** means an area in the floodplain
2 subject to a 1 percent or greater chance of flooding in any given year. It is
3 shown on an FHBM or FIRM as Zone A, AO, A1-A30, AE, A99, AH, V1-
4 V30, VE or V.

5 **"Start of construction"** includes substantial improvement and other
6 proposed new development and means the date the building permit was
7 issued, provided the actual start of construction, repair, reconstruction,
8 rehabilitation, addition, placement, or other improvement was within 180
9 days from the date of the permit. The actual start means either the first
10 placement of permanent construction of a structure on a site, such as the
11 pouring of slab or footings, the installation of piles, the construction of
12 columns, or any work beyond the stage of excavation; or the placement of
13 a manufactured home on a foundation. Permanent construction does not
14 include land preparation, such as clearing, grading, and filling; nor does it
15 include the installation of streets and/or walkways; nor does it include
16 excavation for a basement, footings, piers, or foundations or the erection
17 of temporary forms; nor does it include the installation on the property of
18 accessory buildings, such as garages or sheds not occupied as dwelling
19 units or not part of the main structure. For a substantial improvement, the
20 actual start of construction means the first alteration of any wall, ceiling,
21 floor, or other structural part of a building, whether or not that alteration
22 affects the external dimensions of the building.

23 **"Structure"** means a walled and roofed building that is principally above
24 ground; this includes a gas or liquid storage tank or a manufactured home.

25 **"Substantial damage"** means damage of any origin sustained by a
26 structure whereby the cost of restoring the structure to its before damaged
27 condition would equal or exceed 50 percent of the market value of the
28 structure before the damage occurred.

29 **"Substantial improvement"** means any reconstruction, rehabilitation,
30 addition, or other proposed new development of a structure, the cost of
31 which equals or exceeds 50 percent of the market value of the structure
32 before the "start of construction" of the improvement. This term includes
33 structures that have incurred "substantial damage", regardless of the
34 actual repair work performed. The term does not, however, include either

35 1. any project for improvement of a structure to correct
36 existing violations or state or local health, sanitary, or safety
37 code specifications which have been identified by the local
38 code enforcement official and which are the minimum
39 necessary to assure safe living conditions, or

2. any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

"V zone" - see "Coastal high hazard area."

"Variance" means a grant of relief from the requirements of this ordinance, which permits construction in a manner that would otherwise be prohibited by this ordinance.

"Violation" means the failure of a structure or other development to be fully compliant with this ordinance. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

"Water surface elevation" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

"Watercourse" means a lake, river, creek, stream, wash, arroyo, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

SECTION 3.0

GENERAL PROVISIONS

3.1 LANDS TO WHICH THIS ORDINANCE APPLIES. This ordinance shall apply to all areas of special flood hazards within the jurisdiction of [COUNTY OR MUNICIPALITY].

3.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD. The areas of special flood hazard identified by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) in the Flood Insurance Study (FIS) dated [DATE] and accompanying Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), dated [DATE], and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this ordinance. This FIS and attendant mapping is the minimum area of applicability of this ordinance and may be supplemented by studies for other areas which allow implementation of this ordinance and which are recommended to the [GOVERNING BODY] by the Floodplain Administrator. The study, FIRMs and FBFMs are on file at

1 [ADDRESS OF CITY HALL, COUNTY ADMINISTRATION BUILDING, DEPARTMENT OF
2 PLANNING OR PUBLIC WORKS, OR OTHER].

3 **3.3 COMPLIANCE.** No structure or land shall hereafter be constructed,
4 located, extended, converted, or altered without full compliance with the
5 term of this ordinance and other applicable regulations. Violation of the
6 requirements (including violations of conditions and safeguards
7 established in connection with conditions) shall constitute a misdemeanor.
8 Nothing herein shall prevent the [GOVERNING BODY] from taking such lawful
9 action as is necessary to prevent or remedy any violation.

10 **3.4 ABROGATION AND GREATER RESTRICTIONS.** This ordinance is
11 not intended to repeal, abrogate, or impair any existing easements,
12 covenants, or deed restrictions. However, where this ordinance and
13 another ordinance, easement, covenant, or deed restriction conflict or
14 overlap, whichever imposes the more stringent restrictions shall prevail.

15 **3.5 INTERPRETATION.** In the interpretation and application of this
16 ordinance, all provisions shall be

17 A. considered as minimum requirements;

18 B. liberally construed in favor of the governing body; and

19 C. deemed neither to limit nor repeal any other powers granted
20 under state statutes.

21 **3.6 WARNING AND DISCLAIMER OF LIABILITY.** The degree of flood
22 protection required by this ordinance is considered reasonable for
23 regulatory purposes and is based on scientific and engineering
24 considerations. Larger floods can and will occur on rare occasions. Flood
25 heights may be increased by man-made or natural causes. This ordinance
26 does not imply that land outside the areas of special flood hazards or uses
27 permitted within such areas will be free from flooding or flood damages.
28 This ordinance shall not create liability on the part of [GOVERNING BODY],
29 any officer or employee thereof, the State of California, or the Federal
30 Insurance Administration, Federal Emergency Management Agency, for
31 any flood damages that result from reliance on this ordinance or any
32 administrative decision lawfully made hereunder.

33 **3.7 SEVERABILITY.** This ordinance and the various parts thereof are
34 hereby declared to be severable. Should any section of this ordinance be
35 declared by the courts to be unconstitutional or invalid, such decision shall
36 not affect the validity of the ordinance as a whole, or any portion thereof
37 other than the section so declared to be unconstitutional or invalid.

38 **SECTION 4.0**

ADMINISTRATION

4.1 ESTABLISHMENT OF DEVELOPMENT PERMIT. A development permit shall be obtained before any construction or other development begins within any area of special flood hazard established in Section 3.2. Application for a development permit shall be made on forms furnished by the Floodplain Administrator and may include, but not be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the location of the foregoing. Specifically, the following information is required.

A. Site plan, including but not limited to:

1. for all proposed structures, spot ground elevations at building corners and 20-foot or smaller intervals along the foundation footprint, or one foot contour elevations throughout the building site; and
2. proposed locations of water supply, sanitary sewer, and utilities; and
3. if available, the base flood elevation from the Flood Insurance Study and/or Flood Insurance Rate Map; and
4. if applicable, the location of the regulatory floodway; and

B. foundation design detail, including but not limited to:

1. proposed elevation in relation to mean sea level, of the lowest floor (including basement) of all structures; and
2. for a crawl-space foundation, location and total net area of foundation openings as required in Section 5.1.C.3 of this ordinance and FEMA Technical Bulletins 1-93 and 7-93; and
3. for foundations placed on fill, the location and height of fill, and compaction requirements (compacted to 95 percent using the Standard Proctor Test method); and

C. proposed elevation in relation to mean sea level to which any nonresidential structure will be flood proofed, as required in Section 5.1 C.2 of this ordinance and FEMA Technical Bulletin TB 3-93; and

D. all appropriate certifications listed in Section 4.3 D of this ordinance; and

E. description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

4.2 DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR. The [CITY MANAGER, DIRECTOR OF PLANNING, PUBLIC WORKS, BUILDING INSPECTION, ETC.] is hereby appointed to administer, implement, and enforce this

ordinance by granting or denying development permits in accord with its provisions.

4.3 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN

ADMINISTRATOR. The duties and responsibilities of the Floodplain Administrator shall include, but not be limited to the following.

A. Permit Review. Review all development permits to determine that

1. permit requirements of this ordinance have been satisfied,
2. all other required state and federal permits have been obtained,
3. the site is reasonably safe from flooding, and
4. the proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this ordinance, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will increase the water surface elevation of the base flood more than one foot at any point.

B. Review, Use and Development of Other Base Flood Data.

1. When base flood elevation data has not been provided in accordance with Section 3.2, the Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal or state agency, or other source, in order to administer Section 5. Any such information shall be submitted to the [GOVERNING BODY] for adoption; or
2. If no base flood elevation data is available from a federal or state agency or other source, then a base flood elevation shall be obtained using one of two methods from the FEMA publication "Managing Floodplain Development in Approximate Zone A Areas – A Guide for Obtaining and Developing Base (100-year) Flood Elevations" dated July 1995 in order to administer Section 5:
 - a. Simplified method
 - i. 100 year or base flood discharge shall be obtained using the appropriate regression equation found in a U.S. Geological Survey publication, or the discharge-drainage area method; and
 - ii. base flood elevation shall be obtained using the Quick-2 computer program developed by FEMA; or
 - b. Detailed method
 - i. 100 year or base flood discharge shall be obtained using the U.S. Army Corps of Engineers' HEC-HMS computer program; and
 - ii. base flood elevation shall be obtained using the U.S. Army Corps of Engineers' HEC-RAS computer program.

1 C. Notification of Other Agencies. In alteration or relocation of a
2 watercourse:

- 3 1. notify adjacent communities and the California
4 Department of Water Resources prior to alteration or
5 relocation;
- 6 2. submit evidence of such notification to the Federal
7 Insurance Administration, Federal Emergency
8 Management Agency; and
- 9 3. assure that the flood carrying capacity within the
10 altered or relocated portion of said watercourse is
11 maintained.

12 D. Documentation of Floodplain Development. Obtain and maintain
13 for public inspection and make available, as needed, the following:

- 14 1. certification required by Section 5.1 C.1 and 5.4 (lowest floor
15 elevations),
- 16 2. certification required by Section 5.1 C.2 (elevation or flood
17 proofing of nonresidential structures),
- 18 3. certification required by Sections 5.1 C.3 (wet floodproofing
19 standard),
- 20 4. certification of elevation required by Section 5.3 B
21 (subdivision standards),
- 22 5. certification required by Section 5.6 A (floodway
23 encroachments),
- 24 6. information required by Section 5.7 F (coastal construction
25 standards), and
- 26 7. reports required by Section 5.8C (mudflow standards).

27 E. Map Determinations. Make interpretations where needed, as to
28 the exact location of the boundaries of the areas of special flood
29 hazard. Where there appears to be a conflict between a mapped
30 boundary and actual field conditions, grade and base flood
31 elevations shall be used to determine the boundaries of the special
32 flood hazard area. The person contesting the location of the
33 boundary shall be given a reasonable opportunity to appeal the
34 interpretation as provided in Section 6.

35 F. Remedial Action. Take action to remedy violations of this
36 ordinance as specified in Section 3.3.

37 **4.4 APPEALS.** The [GOVERNING BODY] of [COUNTY OR MUNICIPALITY] shall
38 hear and decide appeals when it is alleged there is an error in any
39 requirement, decision, or determination made by the Floodplain
40 Administrator in the enforcement or administration of this ordinance.

SECTION 5.0

PROVISIONS FOR FLOOD HAZARD REDUCTION

5.1 STANDARDS OF CONSTRUCTION. In all areas of special flood hazards the following standards are required:

A. Anchoring

1. All new construction and substantial improvements shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
2. All manufactured homes shall meet the anchoring standards of Section 5.4.

B. Construction materials and methods. All new construction and substantial improvement shall be constructed

1. with flood resistant materials as specified in FEMA Technical Bulletin TB 2-93, and utility equipment resistant to flood damage;
2. using methods and practices that minimize flood damage;
3. with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; and if
4. within Zone AH or AO, so that there are adequate drainage paths around structures on slopes to guide flood waters around and away from proposed structures.

C. Elevation and flood proofing. (See Section 2 definitions for "basement," "lowest floor," "new construction," "substantial damage" and "substantial improvement".)

- I. Residential construction, new or substantial improvement, shall have the lowest floor, including basement,
 - a. in a Zone AO, elevated above the highest adjacent grade to a height equal to or exceeding the depth number specified in feet on the FIRM, or elevated at least two feet above the highest adjacent grade if no depth number is specified. (*The State of California recommends that in Zone AO without velocity, the lowest floor be elevated above the highest adjacent grade to a height exceeding the depth number specified in feet on the FIRM by at least two feet, or elevated at least four feet above the highest adjacent grade if no depth number is specified.*)
 - b. in a Zone A, elevated to or above the base flood elevation; said base flood elevation shall be determined by one of the methods in Section 4.3 B of this ordinance. (*The State of California recommends*

1 *the lowest floor be elevated at least two feet above the base flood*
2 *elevation, as determined by the community.)*

3 c. in all other zones, elevated to or above the base flood elevation.
4 *(The State of California recommends the lowest floor be elevated at*
5 *least two feet above the base flood elevation.)*

6 Upon the completion of the structure, the elevation of the lowest floor
7 including basement shall be certified by a registered professional engineer or
8 surveyor, and verified by the community building inspector to be properly
9 elevated. Such certification and verification shall be provided to the Floodplain
10 Administrator.

11 2. Nonresidential construction, new or substantial
12 improvement, shall either be elevated to conform with
13 Section 5.1 C.1 or together with attendant utility and sanitary
14 facilities

- 15 a. be flood proofed below the elevation recommended under Section
16 5.1 C.1 so that the structure is watertight with walls substantially
17 impermeable to the passage of water;
18 b. have structural components capable of resisting hydrostatic and
19 hydrodynamic loads and effects of buoyancy; and
20 c. be certified by a registered professional engineer or architect that
21 the standards of this section (5.1 C.2) are satisfied. Such certification
22 shall be provided to the Floodplain Administrator.

23 3. All new construction and substantial improvement with
24 fully enclosed areas below the lowest floor (excluding
25 basements) that are usable solely for parking of vehicles,
26 building access or storage, and which are subject to
27 flooding, shall be designed to automatically equalize
28 hydrostatic flood forces on exterior walls by allowing for the
29 entry and exit of floodwater. Designs for meeting this
30 requirement shall follow the guidelines in FEMA Technical
31 Bulletins TB 1-93 and TB 7-93, and must exceed the
32 following minimum criteria:

33 a. have a minimum of two openings having a total net
34 area of not less than one square inch for every square
35 foot of enclosed area subject to flooding. The bottom
36 of all openings shall be no higher than one foot above
37 grade. Openings may be equipped with screens,
38 louvers, valves or other coverings or devices provided
39 that they permit the automatic entry and exit of
40 floodwater; or

41 b. be certified by a registered professional engineer or
42 architect.

1 4. Manufactured homes shall also meet the standards in
2 Section 5.4.

3 **5.2 STANDARDS FOR UTILITIES.**

4 A. All new and replacement water supply and sanitary sewage
5 systems shall be designed to minimize or eliminate:

- 6 1. infiltration of flood waters into the systems, and
7 2. discharge from the systems into flood waters.

8 B. On-site waste disposal systems shall be located to avoid
9 impairment to them, or contamination from them during flooding.

10 **5.3 STANDARDS FOR SUBDIVISIONS.**

11 A. All preliminary subdivision proposals shall identify the special
12 flood hazard area and the elevation of the base flood.

13 B. All subdivision plans will provide the elevation of proposed
14 structure(s) and pad(s). If the site is filled above the base flood
15 elevation, the lowest floor and pad elevations shall be certified by a
16 registered professional engineer or surveyor and provided to the
17 Floodplain Administrator.

18 C. All subdivision proposals shall be consistent with the need to
19 minimize flood damage.

20 D. All subdivision proposals shall have public utilities and facilities
21 such as sewer, gas, electrical and water systems located and
22 constructed to minimize flood damage.

23 E. All subdivisions shall provide adequate drainage to reduce
24 exposure to flood hazards.

25 **5.4 STANDARDS FOR MANUFACTURED HOMES.**

26 A. All manufactured homes that are placed or substantially
27 improved, within Zones A1-30, AH, and AE on the community's
28 Flood Insurance Rate Map, on sites located

- 29 1. outside of a manufactured home park or subdivision,
30 2. in a new manufactured home park or subdivision,
31 3. in an expansion to an existing manufactured home park or subdivision,
32 or

1 4. in an existing manufactured home park or subdivision on a site upon
2 which a manufactured home has incurred "substantial damage" as the
3 result of a flood,

4 shall be elevated on a permanent foundation such that the lowest
5 floor of the manufactured home is elevated to or above the base
6 flood elevation (*the State of California recommends at least two*
7 *feet above the base flood elevation*) and be securely fastened to an
8 adequately anchored foundation system to resist flotation, collapse,
9 and lateral movement.

10 B. All manufactured homes that are placed or substantially
11 improved on sites located within Zones V1-30, V, and VE on the
12 community's Flood Insurance Rate Map will meet the requirements
13 of Section 5.4 A and Section 5.7.

14 C. All manufactured homes to be placed or substantially improved
15 on sites in an existing manufactured home park or subdivision
16 within Zones A1-30, AH, AE, V1-30, V, and VE on the community's
17 Flood Insurance Rate Map that are not subject to the provisions of
18 paragraph 5.4 A will be securely fastened to an adequately
19 anchored foundation system to resist flotation, collapse, and lateral
20 movement, and be elevated so that either the

21 1. lowest floor of the manufactured home is at or above the base flood
22 elevation (*the State of California recommends at least two feet above the*
23 *base flood elevation*), or

24 2. manufactured home chassis is supported by reinforced piers or other
25 foundation elements of at least equivalent strength that are no less than
26 36 inches in height above grade.

27 Upon the completion of the structure, the elevation of the lowest floor
28 including basement shall be certified by a registered professional engineer
29 or surveyor, and verified by the community building-inspector to be
30 properly elevated. Such certification and verification shall be provided to
31 the Floodplain Administrator.

32 **5.5 STANDARDS FOR RECREATIONAL VEHICLES.**

33 A. All recreational vehicles placed on sites within Zones A1-30, AH,
34 and AE on the community's Flood Insurance Rate Map will either:

35 1. be on the site for fewer than 180 consecutive days, and be fully
36 licensed and ready for highway use – a recreational vehicle is ready for
37 highway use if it is on its wheels or jacking system, is attached to the site
38 only by quick disconnect type utilities and security devices, and has no
39 permanently attached additions, or

1 2. meet the permit requirements of Section 4 of this ordinance and the
2 elevation and anchoring requirements for manufactured homes in Section
3 5.4 A.

4 B. Recreation vehicles placed on sites within Zones V1-30, V, and
5 VE on the community's Flood Insurance Rate Map will meet the
6 requirements of Section 5.5 A and Section 5.7.

7 **5.6 FLOODWAYS.** Located within areas of special flood hazard
8 established in Section 3.2 are areas designated as floodways. Since the
9 floodway is an extremely hazardous area due to the velocity of
10 floodwaters, which carry debris, potential projectiles, and erosion potential,
11 the following provisions apply.

12 A. Prohibit encroachments, including fill, new construction,
13 substantial improvement, and other new development unless
14 certification by a registered professional engineer is provided
15 demonstrating that encroachments shall not result in any increase
16 in the base flood elevation during the occurrence of the base flood
17 discharge.

18 B. If Section 5.6 A is satisfied, all new construction, substantial
19 improvement, and other proposed new development shall comply
20 with all other applicable flood hazard reduction provisions of
21 Section 5.

22 **5.7 COASTAL HIGH HAZARD AREAS.** Within coastal high hazard areas
23 as established under Section 3.2, the following standards shall apply.

24 A. All new construction and substantial improvement shall be
25 elevated on adequately anchored pilings or columns and securely
26 anchored to such pilings or columns so that the lowest horizontal
27 portion of the structural members of the lowest floor (excluding the
28 pilings or columns) is elevated to or above the base flood level. The
29 pile or column foundation and structure attached thereto is
30 anchored to resist flotation, collapse, and lateral movement due to
31 the effects of wind and water loads acting simultaneously on all
32 building components. Water loading values used shall be those
33 associated with the base flood. Wind loading values used shall be
34 those required by applicable state or local building standards.

35 B. All new construction and other development shall be located on
36 the landward side of the reach of mean high tide.

37 C. All new construction and substantial improvement shall have the
38 space below the lowest floor free of obstructions or constructed
39 with breakaway walls as defined in Section 2 of this ordinance.
40 Such enclosed space shall not be used for human habitation and

1 will be usable solely for parking of vehicles, building access or
2 storage.

3 D. Fill shall not be used for structural support of buildings.

4 E. Man-made alteration of sand dunes that would increase potential
5 flood damage is prohibited.

6 F. The Floodplain Administrator shall obtain and maintain the
7 following records.

8 1. Certification by a registered engineer or architect that a proposed
9 structure complies with Section 5.7 A.

10 2. The elevation (in relation to mean sea level) of the bottom
11 of the lowest structural member of the lowest floor (excluding
12 pilings or columns) of all new and substantially improved
13 structures, and whether such structures contain a basement.

14 **5.8 MUDSLIDE (i.e., MUDFLOW) PRONE AREAS**

15 A. The Floodplain Administrator shall review permits for proposed
16 construction of other development to determine if it is proposed
17 within a mudslide area.

18 B. Permits shall be reviewed to determine that the proposed site
19 and improvement will be reasonably safe from mudslide hazards.
20 Factors to be considered in making this determination include but
21 are not limited to the

- 22 1. type and quality of soils,
- 23 2. evidence of ground water or surface water problems,
- 24 3. depth and quality of any fill,
- 25 4. overall slope of the site, and
- 26 5. weight that any proposed development will impose on the
27 slope.

28 C. Within areas which may have mudslide hazards, the floodplain
29 Administrator shall require that

- 30 1. a site investigation and further review be made by persons
31 qualified in geology and soils engineering;
- 32 2. the proposed grading, excavation, new construction, and
33 substantial improvement be adequately designed and
34 protected against mudslide damages;
- 35 3. the proposed grading, excavations, new construction, and
36 substantial improvement not aggravate the existing hazard
37 by creating either on-site or off-site disturbances; and
- 38 4. drainage, planting, watering, and maintenance not endanger
39 slope stability.

5.9 FLOOD-RELATED EROSION-PRONE AREA

- A. The Floodplain Administrator shall require permits for proposed construction and other development within all flood-related erosion-prone areas as known to the community.
- B. Permit applications shall be reviewed to determine whether the proposed site alterations and improvements will be reasonably safe from flood-related erosion and will not cause flood-related erosion hazards or otherwise aggravate the existing hazard.
- C. If a proposed improvement is found to be in the path of flood-related erosion or would increase the erosion hazard, such improvement shall be relocated or adequate protective measures shall be taken to avoid aggravating the existing erosion hazard.
- D. Within Zone E on the Flood Insurance Rate Map, a setback is required for all new development from the ocean, lake, bay, riverfront or other body of water to create a safety buffer consisting of a natural vegetative or contour strip. This buffer shall be designated according to the flood-related erosion hazard and erosion rate, in relation to the anticipated "useful life" of structures, and depending upon the geologic, hydrologic, topographic, and climatic characteristics of the land. The buffer may be used for suitable open space purposes, such as for agricultural, forestry, outdoor recreation and wildlife habitat areas, and for other activities using temporary and portable structures only.

SECTION 6.0

VARIANCE PROCEDURE

6.1 NATURE OF VARIANCES. The variance criteria set forth in this section of the ordinance are based on the general principle of zoning laws that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this ordinance would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.

1 It is the duty of the [GOVERNING BODY] to help protect its citizens from
2 flooding. This need is so compelling and the implications of the cost of
3 insuring a structure built below flood level is so serious that variances from
4 the flood elevation or from other requirements in the flood ordinance are
5 quite rare. The long-term goal of preventing and reducing flood loss and
6 damage can only be met if variances are strictly limited. Therefore, the
7 variance guidelines provided in this ordinance are more detailed and
8 contain multiple provisions that must be met before a variance can be
9 properly granted. The criteria are designed to screen out those situations
10 in which alternatives other than a variance are more appropriate.

11 **6.2 APPEAL BOARD.**

12 A. In passing upon requests for variances, the [GOVERNING BODY]
13 shall consider all technical evaluations, all relevant factors,
14 standards specified in other sections of this ordinance, and the

- 15 1. danger that materials may be swept onto other lands to the injury of
16 others;
- 17 2. danger of life and property due to flooding or erosion damage;
- 18 3. susceptibility of the proposed facility and its contents to flood damage
19 and the effect of such damage on the existing individual owner and future
20 owners of the property;
- 21 4. importance of the services provided by the proposed facility to the
22 community;
- 23 5. necessity to the facility of a waterfront location, where applicable;
- 24 6. availability of alternative locations for the proposed use which are not
25 subject to flooding or erosion damage;
- 26 7. compatibility of the proposed use with existing and anticipated
27 development;
- 28 8. relationship of the proposed use to the comprehensive plan and
29 floodplain management program for that area;
- 30 9. safety of access to the property in time of flood for ordinary and
31 emergency vehicles;
- 32 10. expected heights, velocity, duration, rate of rise, and sediment
33 transport of the flood waters expected at the site; and
- 34 11. costs of providing governmental services during and after flood
35 conditions, including maintenance and repair of public utilities and facilities
36 such as sewer, gas, electrical, and water system, and streets and bridges.

37 B. Any applicant to whom a variance is granted shall be given
38 written notice over the signature of a community official that

- 39 1. the issuance of a variance to construct a structure below the base flood
40 level will result in increased premium rates for flood insurance up to
41 amounts as high as \$25 for \$100 of insurance coverage, and
- 42 2. such construction below the base flood level increases risks to life and
43 property. It is recommended that a copy of the notice shall be recorded by

the Floodplain Administrator in the Office of the [COUNTY] Recorder and shall be recorded in a manner so that it appears in the chain of title of the affected parcel of land.

C. The Floodplain Administrator will maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its biennial report submitted to the Federal Insurance Administration, Federal Emergency Management Agency.

6.3 CONDITIONS FOR VARIANCES.

A. Generally, variances may be issued for new construction, substantial improvement, and other proposed new development to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing that the procedures of Sections 4 and 5 of this ordinance have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

B. Variances may be issued for the repair or rehabilitation of "historic structures" (as defined in Section 2 of this ordinance) upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

C. Variances shall not be issued within any mapped regulatory floodway if any increase in flood levels during the base flood discharge would result.

D. Variances shall only be issued upon a determination that the variance is the "minimum necessary" considering the flood hazard, to afford relief. "Minimum necessary" means to afford relief with a minimum of deviation from the requirements of this ordinance. For example, in the case of variances to an elevation requirement, this means the [GOVERNING BODY] need not grant permission for the applicant to build at grade, or even to whatever elevation the applicant proposes, but only to that elevation which the [GOVERNING BODY] believes will both provide relief and preserve the integrity of the local ordinance.

E. Variances shall only be issued upon a

1. showing of good and sufficient cause;

1 2. determination that failure to grant the variance would result in
2 exceptional "hardship" (as defined in Section 2 of this ordinance) to the
3 applicant; and
4 3. determination that the granting of a variance will not result in increased
5 flood heights, additional threats to public safety, or extraordinary public
6 expense, create a nuisance (as defined in Section 2 - see "**Public safety**
7 **and nuisance**"), cause fraud or victimization (as defined in Section 2) of
8 the public, or conflict with existing local laws or ordinances.

9 F. Variances may be issued for new construction, substantial
10 improvement, and other proposed new development necessary for
11 the conduct of a functionally dependent use provided that the
12 provisions of sections 6.3 A through 6.3 E are satisfied and that the
13 structure or other development is protected by methods that
14 minimize flood damages during the base flood and does not result
15 in additional threats to public safety and does not create a public
16 nuisance.

17 G. Upon consideration of the factors of Section 6.2 A and the
18 purposes of this ordinance, the [GOVERNING BODY] may attach such
19 conditions to the granting of variances as it deems necessary to
20 further the purposes of this ordinance.

ZONE AR ADDENDUM TO THE CALIFORNIA MODEL ORDINANCE

PLEASE NOTE: It may not be necessary for your community to adopt all of the provisions below. The applicable provisions that your community must adopt depends upon:

Which of the Zone AR designations are on the Flood Insurance Rate Map (FIRM) for your community, and

Whether your community has designated only "developed areas" or a combination of designated "developed areas" and areas that are not developed.

If you need assistance in determining which provisions must be adopted, please contact the California Department of Water Resources – Southern District at (818) 543-4646, the National Flood Insurance Program (NFIP) State Coordinator at (916) 653-6214, or the Federal Emergency Management Agency's San Francisco office at (415) 923-7175.

1. SECTION 2.0 DEFINITIONS

a. Modify "**Area of shallow flooding**" to read: means a designated Zone AO, AH, AR/AO, or AR/AH on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. Such flow is characterized by ponding or sheet flow.

b. Modify "**Special flood hazard area (SFHA)**" to read: means an area in the floodplain subject to a one percent or greater chance of flooding in any given year. It is shown on a FIRM as Zone A, AO, A1-A30, AE, A99, AR, AR/A1-A30, AR/AE, AR/AO, AR/AH, AR/A, AH, V1-V30, VE or V.

c. Add: "**ZONE AR**" means a special flood hazard area that results from the de-certification of a previously accredited flood protection system that is determined to be in the process of being restored to provide a 100-year or greater level of flood protection.

d. Add "**Developed areas**" means an area of a community that is:

1. A primarily urbanized, built-up area that is a minimum of 20 contiguous acres, has basic urban infrastructure, including roads, utilities, communications, and public facilities, to sustain industrial, residential, and commercial activities, and

a. within which 75 percent or more of the parcels, tracts, or lots contain commercial, industrial, or residential structures or uses; or

b. is a single parcel, tract, or lot in which 75 percent of the area contains existing commercial or industrial structures or uses; or

c. is a subdivision developed at a density of at least two residential structures per acre within which 75 percent or more of the lots contain existing residential structures.

2. Undeveloped parcels, tracts, or lots, the combination of which is less than 20 acres and contiguous on at least 3 sides to areas meeting the criteria of paragraph 1.

3. A subdivision that is a minimum of 20 contiguous acres that has obtained all necessary government approvals, provided that the actual ²start of construction² of structures has occurred on at least

a. 10 percent of the lots or remaining lots of a subdivision or

b. 10 percent of the maximum building coverage or remaining building coverage allowed for a single lot subdivision

and construction of structures is underway. Residential subdivisions must meet the density criteria in paragraph 1.c.

2. SECTION 4.3 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

Add:

G. Zone AR Duties.

1. use the adopted official map or legal description of those designated developed areas within Zone AR,

AR/AR1-30, AR/AE, AR/AH, AR/A, or AR/AO as defined in Section 2 to determine if a proposed project is in a developed area.

2. determine the base flood elevation to be used for individual projects within developed areas, areas not designated as developed areas, and dual zone areas (See Section 5.7).

3. require the applicable standards in Section 5.0.

4. provide written notification to the permit applicant that the area has been designated as a Zone AR, AR/A1-30, AR/AE, AR/AH, AR/AO, or AR/A and whether the structure will be elevated or protected to or above the AR base flood elevation.

3. SECTION 5.1 B.

a. Modify 4. to read:

4. within Zone AH, AO, AR/AH, or AR/AO, so that there are adequate drainage paths around structures on slopes to guide flood waters around and away from the proposed structures.

4. SECTION 5.1 C. Add: "For ZONE AR requirements, see Section 5.7."

5. Add new **SECTION 5.7 ZONE AR AREAS** and renumber existing 5.7, 5.8, 5.9.

5.7 ZONE AR AREAS Within areas designated as Zone AR, AR/A1-30, AR/AE, AR/AH, AR/AO. or AR/A as established under Section 3.2, the following standards shall apply:

A. Developed Areas. All new construction in areas designated as developed areas shall meet the standards of Section 5.0 using the lower of either the AR base flood elevation or the elevation that is 3 feet above the highest adjacent grade.

B. Areas Not Designated as Developed Areas. All new construction in areas that are not designated as developed areas:

1. where the AR flood depth is equal to or less than 5 feet above the highest adjacent grade,

1 shall meet the standards of Section 5.0 using
2 the lower of either the AR base flood elevation
3 or the elevation that is 3 feet above the highest
4 adjacent grade; or

5 2. where the AR flood depth is greater than 5
6 feet above the highest adjacent grade, shall
7 meet the standards of Section 5.0 using the AR
8 base flood elevation.

9 **C. Dual Zone Areas.**

10 1. All new construction in areas within Zone
11 AR/A1-30, AR/AE, AR/AH, AR/AO, or AR/A
12 shall meet the standards of Section 5.0 using
13 the higher of either the applicable Zone AR
14 elevation (as determined from Section 5.7.A or
15 B above) or the base flood elevation (or flood
16 depth) for the underlying Zone A1-30, AE, AH,
17 AO, or A.

18 2. All substantial improvements to existing
19 construction within Zone AR/A1-30, AR/AE,
20 AR/AH, AR/AO, or AR/A shall meet the
21 standards of Section 5.0 using the base flood
22 elevation (or flood depth) for the underlying
23 Zone A1-30, AE, AH, AO, or A.
24